ABSTRACT OF DISCLOSURE

An inverter control apparatus and method of a three-phase motor includes disposing three maximum phase voltage vectors each having an equivalent angle interval corresponding to maximum values of each phase voltage; setting maximum phase voltage vector regions by predetermined angles with respect to each of the maximum phase voltage vectors; setting minimum phase voltage vectors corresponding to the maximum phase voltage vectors in between the maximum phase voltage vector regions; obtaining a desirable voltage by turning on a first switch and turning off a second switch, both connected to the phase terminal of a corresponding maximum phase voltage in each maximum phase voltage vector region; and changing a duty ratio of control signals with respect to other two switches corresponding to the other two phase voltages.